FE 144 WIRE DRAG

Diagram No. 1245 & 1246

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

DESCRIPTIVE REPORT

Type of Survey Wire Drag

Field No. PBS-4556WD

Registery No. FE-144WD (1955-56)

LOCALITY

State Florida

General Locality Atlantic Ocean.

Sublocality Cape Canaveral

19 56-57

CHIEF OF PARTY
J.C. Ellerbe

☆U.S. GOV. PRINTING OFFICE: 1985-566-054

LIBRARY & ARCHIVES

DATE March 7, 1957

NOTE: A new system for registering Field Examinations (FE's) was established in 1980. All FE's are now consecutively numbered as shown hereon. The date shown in the new format is the actual date of survey. This material was previously registered as:

F.E. No.3 1957WD

FE 144 WIRE DRAG

FENo. 3

Diag. Cht. Nos. 1245 and 1246

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey WIRE DRAG

Field No. PBS-4556WD Office No. F. F. No. 3 WD

LOCALITY

State FLORIDA

General locality ATLANTIC OCEAN

CAPE CANAVERAL Locality

194 56-57

CHIEF OF PARTY

John C. Ellerbe

LIBRARY & ARCHIVES

MAR 7-1957

B-1870-1 (I)



DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

REGISTER No.

Field No. PBS-4556 WD
StateFlorida
General locality Atlantic Ocean
LocalityCape Canaveral
Scale 1:40000 Date of survey 10/12/56 - 1/3/57
Instructions dated 24 August 1956
Vessel PARKER- BOWEN - STIRNI
Chief of party K.S. Ulm, C.R. Reed, & J.C. Ellerbe
Surveyed by R.C. Darling, D.G. Rushford, O.L. Doster, W.M. Lee E.R. Scyoc, L.L. SEal, & J.S. Baker
Soundings taken by fathemeter graphic recorder, hand least xxix
Fathograms scaled by Field Party
Fathograms checked by Norfolk District Processing Office
Protracted byW.R. Kachel Drag strips inked by: W.R. Kachel
Soundings in Extrans feet at MLW xMkkXX
Remarks:
•

Descriptive Report to Accompany Hydrographic Surveys

H-8340 (Field No. PRS-1156)
H-8341 (Field No. PRS-2456)
H-8342 (Field No. PRS-2556)
H-8343 (Field No. PRS-2656)
H-8344 (Field No. PRS-2756)
H-8345 (Field No. PRS-4556)
FE 3/1947 (Field No. PRS-4556 WD)
(Field No. PRS-4656 WD)

These Surveys were accomplished by Goast & Geodetic Survey Ships PARKER, BUNEN, STIRNI, and Launch No. 180. Chiefs of Party during the project were CDR. Kenneth S. Ulm, CDR. Clarence R. Reed, and CDR. John C. Ellerbe.

A. PROJECT: Project No. 10000-804. Original instructions dated 24 Aug. 1956. / Supplemental instructions dated 3 October 1956 and 9 October 1956.

B. SURVEY LIMITS AND DATES: This project is in the general vicinity of Cape Canaveral, Florida. Field work was begun on 12 Cotober 1956 and ended 3 January 1957. The progress of the work was hampered as the project was in a restricted area of the guided missile range. Nork could only be accomplished when missile tests were not being conducted. At other times, shoren operations had to be stopped, because it was causing some interference with the Air Force. As a result, long hours and weekend work was necessary.

C. VESUFIS AND EQUIPMENT: The Ships PARKER, BOWER, TIRNI, and Launch No. 180 were used in the survey. All vessels based at Port Canaveral, Floride, in the immediate project area. The majority of soundings were taken with 808 type fathometers. The following instruments being used: 1005, 1125, 151 SPX, 160 SPX, and 164. Edo Fathometer No. 215 was used for part of the work on Launch No. 180.

D. TIDE AND CUMBENT STATIONS: A portable automatic tide gage was maintained at the Air Force Ekerf, Fort Canaveral, Florida. Mile as furnished by the Washington Office was 1.0 Ft. on the Tide Staff. Ho other time or range corrections: were applied. Three current stations were occupied by the Ship STIRNI using a combination of Roberts Radio Current Buoys and Current Pole. Currents were very weak at all three stations.

K: SMOOTH SHEET: 'Smooth sheet projections were constructed by hand at the Morfolk District Processing Office.

F. CONTROL STATIONS: Shoran control was used for the entire project. Three shoran stations were erected. Each station was located near a triangulation station. The shoran mast was located by azimuth and distance from the adjacent triangulation station and G.P.'s computed using standard methods. This location work was done by Lt. Nygren's Goodetic Party based at Patrick Air Force Base.

G. SHCHNLINE AND TOPOGRAPHY: Shoreline details will be taken from Topographic Ranuscripts compiled from recent photographs.

H. SCHRUINGS: All depths were measured by fathometers using standard methods.

I. CONTROL OF NYTHOGRAPHY: Shoran control was used for the entire project. Three stations were used in various combinations as the work progressed.

J. AURQUACY OF SURVEY: This survey is considered complete and adequate to supersede prior surveys for charting. Some additional development could have been made of the shoal areas if time had permitted. Junctions with adjoining surveys are satisfactory and depths curves can be adequately drawn at the junctions.

K. CROSSLINES: Approximately 5 - 8% crosslines were ren.

L. COMPARISON WITH PRICE SURVEYS: No comparison had been made at the time of this report. Comparisons will be made after smooth sheets are plotted.

M. COMPARISON WITH CHART! See Section "L".

W. DANGERS AND SHOALS: No new dangers or shoals were found. All charted dangers, shoals, and bare rocks were found as charted; no shoaler depths were found except for those listed in L, \times , and N.

O. COAST FILOT INFORMATION: This information will be submitted as a separate report.

F. AIDS TO MAVIGATION: All floating side to navigation were located by shoren by sextant fixes. Form 567 was submitted to W. O. 1/3/57.

C. LANIMARKS FOR CHARTS: Washington Office requested CDR. James C. Timon, ChGS limiuon officer with U. S. Air Force, to furnish information for landmarks directly.

R. OFFICRAPHIC NAMES: This information will be submitted on a separate report.

5. SILTER AREAS: No applicable.

T. BY_PRODUCT INFORMATION: Wire Drag investigations were made of several items in the area in conjunction with the hydrographic surveys. A separate report "Investigation of Wreeks" was submitted to the Mashington Office on 12/11/56, covering this phase of the work. Standard wire drag methods were used. Shoran provided the control for both the guide and end vessels. The STIRNI was used as tender and tests were made according to standard procedures.

The following Wire Drag Investigations were Nade:

Sheet PBS-4556 MD, Wreek Nos. 495, 501, 845, & 1221 CLOCL. 21 (1957)

Sheet PBS-4656 MD, Wreek No. 502

NHECK NO. 1951 Wreek located at latitude 28° 34.22' - longitude 80° 18.95'.

A least depth of 60 feet was obtained on the wreck by fathometer. Wreek was hung at 65.0 feet effective depth and cleared at 56.0 feet effective depth. Chart 56

REECK NO. 5011 Freek located at latitude 28° 23.30'- longitude 80° 17.72'. A least depth of 16 feet was obtained on the wreek by fathometer. Wreek was hung at 55.5 feet effective depth and cleared at 43.0 feet effective depth. Chart [43]

RECK BC. 8451 Wreck is in two sections. The northern and shoulest section lies at latitude 28° 28.70' - longitude 80° 22.90'. The deeper section lies at latitude 28° 28.664 - longitude 80° 21.95'. The wreck was hung at 49.5' feet chart 46 effective depth and cleared at 46.0' feet effective depth. The deeper section has a depth of 53 feet by fathometer. Wreck is marked by obstruction buoy ERSA. Buoy location at time of survey: latitude 28° 28.51' - longitude 80° 21.84'.

WRECK NO. 1221 (Gestruction): This obstruction was not found by sonar search or dragging operations. The immediate area of the reported position was dragged to an effective depth of 41.3 feet in a general bottom depth of 44 to 50 feet.

WRECK NO. 502: This wreck was not found. The area was dragged by four strips with effective depths ranging from 60.0 to 66.5 feet with negative results.

U. TABULATION OF APPLICABLE DATA: See following pages.

Respectfully submitted,

William R. Kachel

William R. Kachel Lt., C&GS

BCTE: The above named officer was not present during any of the work covered by this report. This report was written prior to the plotting of the amouth sheets.

APPROVED AND PORKARDED:

(with additional note, see belows)

Clarence R. Reed

CDR., CAGS

ERK: 11

Conditions under which hydrography was accomplished on the Cape Canaveral project were a little unusual. Early completions of the project was urgent and work "around the clock" was often necessary in order to dovetail the work to avoid interference with military operations. The ships were not designed for continuous operation and, due to shortage of personnel and time, the records were not as complete as could be desired for submission to the Korfolk Processing Office. However, on this date (7 February 1957) it is believed that records have been placed in good condition by office personnel under the supervision of Lt. W. R. Kachel. Although Mr. Kachel was not present during the Florida field season, his previous experience has proved very valuable.

INVENTORY OF DATA - PROJECT 10000-504

1. BOAT SHEETS!

1 4	.	Sheet	Field Mc	, PHS-1156
î			W ·	PBS-2456
			#	PBS-2556
1			11	PB9-2656
	BA.		11	PBS-2756
1	#4.		•	PBS-4556
1	ta,		u	
1	eA.	1	11	PBS-4556 ND
			10	PBS-4656 W.D.
ī	ea.	Sheet,	Dinaple	x, Calibration

2.	Sounding Volume #1	PARKER	BOWER	STIENI	Launch 160	Total
2.	PBS 1156 PBS 2456 PBS 2556 PBS 2656 PBS 2756 PBS 4556 PBS 4656 PBS 4656 WD	0 12 0 11 0 4 0	0 0 16 1 11 1 1 2	0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 3 0 6 0 0	1 18 16 21 11 5 1
	Calibrations & Bar Checks	1	1	2	1	5

TOTAL - 84 Volumes

3. Pathogramai

Ship PARKER	26 Envelopes
Ship BONES	36 Envelopes
Ship STIRMI	7 Envelopes 14 Envelopes

TOTAL - 83 Envelopes

4. TINESI

Marigrams 15 Oct. - 17 Nov. 1956 Sent to W. O. 12-1-56
Harigrams 17 Nov. - 3 Jan. 1957
Lea. Level record and lea. Report of Tide Station for Air Force
Wharf, Port Canaveral, Florida - Sent to W. O. 10-23-56

5. CURRENTSI

3 ea. Form 270, Record of Current Observations and 28 ea. Tapes, Chronograph Sent to W. O. 1-22-57

6. MAGNETICE!

Special Report - Magnetics Sent to W. C. 1-10-57

7. TRIANGULATION

Mis. Triangulation data for location of Shoran Stations.

INVENTORY OF DATA - PROJECT 10000-804 (cont.)

e. WREEKS:

Special Report - Investigation of Wrecks - Sent to W. C. 12-11-56

SHORAN CORRECTIONS

Rumerous calibrations were made by each vessel during the course of project to determine the correctors to be applied to the shoran distances.

The calibration was accomplished by taking a series of simultaneous visual (sextant) and shoran fixes. The visual fixes were then plotted on a dinaplex celibration sheet. The values were scaled off in statute miles and compared with the values as read on the shoran. The corrections thus determined were fairly consistent and a mean correction was determined for each vessel for the entire project.

Three station sites were occupied during the course of the work. In each case, the G.P. of the shoren must was determined by computation using a nearby triangulation station and measuring asimuth and distance to the mast itself.

The positions were determined as follows:

Station PAT(Also known as BASK in some of the computations) was computed using Patrick Air Force Base, SOUTH WATER TARK.

Station DUM was computed using DUMMIT, 1934

Station CON was computed using COURTERAY, 1953

Final G.P.'s for Shoran Stations:

Lat. 280 15' 08.602" Long. 80° 36' 30.550"

Lat. 28° 41' 47.565" 80° 43' 20.268" MIST

COR Lat. 28° 28' 20.532" 80° 42' 34.733"

The same shoran monitors were used at Stations COR and DUM during the entire project. Monitor #2 at COR and Monitor #4 at DUM. At station PAT, Monitor #3 was used except on 10, 11, & 12 December when Monitor #1 was put in use to facilitate repairs on Monitor #3. Corrections were computed for all four monitors where necessary.

TION HOTE

A portable automatic recording tide gage was in operation at Fort Canaveral, Fla. for the entire project. The plane of mean low water corresponds to 1.0 feet on the staff for this station as furnished by the Washington Office in letter of 7 December 1956.

All tides needed for the periods of hydrography and wire drag were scaled from the marigrams before submitting the marigrams to the Washington Office. Curves were drawn after applying the 1.0 foot correction and tides were tabu- / lated to 0.2 feet for hydrography and 0.5 ft. for wire drag.

TIDE NOTES (CONT.)

The tide gage was continued in operation after the project was finished and was transferred to it. Hygren's Geodetic Party for servicing in order to obtain a longer series of obserations.

PATHOMETER CORRECTIONS

Numerous bar checks were taken by each vessel as the work progressed. These bar checks were limited primarily to the A & B scales. The bar checks were meaned, curves drawn, and correctors tabulated for each fathometer used. Correctors were tabulated to 0.2 ft. for hydrography and 0.5 ft. for wire drag.

The following fathometers were used:

Ship PARKER: Model 808 No. 1128 19 Oct. thru 8 Nov. 1956 Model 808 No. 164 16 Nov. thru 18 Dec. 1956

Ship BONEN: Nodel 808 No. 160XPS Entire project

Ship STIRMI: Model 808 No. 151SPX Entire project

Launch No. 180: EDC No. 215 26 Nov. thru 10 Dec. 1956
Model 808 No. 1005 11 Dec. to End

On 17 Dec. 1956 two bar checks were taken by the PARKER using fathometer 808, No. 164. These were taken on the edge of the Gulf Stream in order to have sufficient water depth for C & D scale check. Due to the difference in temperature and salimity, the correctors resulting from these two bar checks were considerably different from the other correctors determined for this fathometer. It was decided not to use this set of correctors for reducing the soundings unless difficulty was encountered in obtaining satisfactory line crossing.

A tabulation was made of the phase shift even between C & D scales to determine the D scale corrections.

PATHCHETER VELOCITY CORRECTIONS SHIPS PARKER, BOWKH, A STIRNI PROJECT 10,000-804 CAPE CANAVERAL, PLORIDA

SHIP PARKER	808 FATH. #1123	19 Cet. thru	8 Hov. 1956
A SCALE	<u>A SCALB</u>	C SCALE	I SCALE
0.0 to 15.0 -0.2 to 25.0 -0.4 to 35.0 -0.6 to 55.0	-1.2 to 40.0 -1.4 to 60.0 -1.6 to 90.0	-1.6 all	-1.6 all
SHIP PARKER	808 PATH. #164	16 Nov. thre	18 Dec. 1956
A SCALE	9 SCALE	C BCALLE	D SCALE
0.0 to 11.8 -0.2 to 15.8 -0.4 to 20.0 -0.6 to 25.4 -0.8 to 30.4 -1.0 to 40.0 -1.2 to 43.4 -1.4 to 46.2 -1.6 to 48.4 -1.8 to 49.6 -2.0 to 51.0	-0:1 to 40.0 -1.2 to 50.0 -1.4 to 80.0	-1.4 all	-1.4 all
A SCALE	B SCALE	C SCALE	D SCALE
0.0 to 12.4 \$6.2 to 17.4 \$6.4 to 22.0 \$6.6 to 27.4 \$6.8 to \$0.0 \$1.0 to \$7.6 \$1.2 to 52.0 \$1.4 to 55.0	A.8 to 60.0 A1.6 to 62.4 A1.4 to 64.0 A1.2 to 65.8 A1.0 to 67.2 A0.8 to 68.4 A0.6 to 69.6 A0.4 to 71.0	0.0 to 71.4 -0.2 to 75.4 -0.4 to 80.0 -0.6 to 83.2 -0.8 to 87.4 -1.0 to 125.0	-0.5 all

^{*}These correctors determined from bar cheeks taken outside the working area on edge of Gulf Stream. Not to be used for reducing soundings unless other correctors for Path. No. 164, give poor crossings.

SHIP BOWER	808 FATH. 160 IPS	ENTIRE PROJECT
A_SCALE	B SCALE	
-0.2 to 14.4° 0.0 to 30.0 *0.2 to 36.4° 0.4 to 43.0°	* 0.4 to 40.0° 0.6 to 46.6° 0.8 to 52.6	* Corrections addative
0.6 to 50.0' 0.8 to 55.0	1.0 to 57.6' 1.2 to 62.0	

FATHOMETER VELOCITY CORRECTIONS

SHIP STIRNI	808 FATH, # 151SPX	ENTIRE PROJECT
A SCALE		
0.0 to 20.0¹ \$\neq 0.2 to 50.0¹		
LAUNCH 180	E.D.O. FATH.	BEGINNING TO 10 DEC. 1956
A SCALE		
"0.0 to 17.6' 0.2 to 21.0' 0.4 to 23.0' 0.6 to 25.0' 0.8 to 30.0' 1.0 to 31.4' 1.2 to 32.2' 1.4 to 32.8' 1.6 to 33.4' 1.8 to 34.4' 2.0 to 50.0'		*Gorrections addetive
LANUCH 180	808 FATH, 100S	11 DEC, 1956 only
A SCALE		
-0.8 to 19.0' -0.6 to 23.2' -0.4 to 26.8' -0.2 to 35.0' -0.4 to 40.0'		.
LAUNCH 180	808 FATH, 100S	12 DEC. 1956 to end

A SCALE

0.0 to 37.5' -0.2 to 50.0'

PINAL SHORAN CORRECTIONS - CAPE CANAVERAL PROJECT

SHIP PORKER

Station PAT:

(Monitor #1 used 10,11,12 Dec. only)

£0.010 Monitor #1 -0.040 Konitor #1

Station on left dial (left side of page) Station on right dial (right eide of page)

40.025 Monitor #3

Station on left dial (left side of page)

-0.020 Monitor #3 Station on right dial (right side of page)

Station COR:

-0.010

Monitor #2

Station Rus

-0.025 Monitor #4

SHIP ACE EN

Station PAT:

0.000

Monitor #3

Thru 11 November 1956

40.020 Monitor #3

12 Rovember on

Station COR:

-0.020

Monitor #2

Station Dik:

-0.020

Monitor #4

SHIP STIKKI

Station PAT:

Monitor #3

0.000

Station COR:

Monitor #2 -0.025

Station DUE:

Monitor #4 -0.015

LAUNCH NC. 180

Station PAT:

(Monitor #1 used 10,11,12 Dec. only)

Station COR:

Monitor #3 Monitor #3 Monitor #2

Station DUM:

Monitor #4 -0.025

FIELD EXAMINATION PBS-4556WD FINAL DEPTHS ON OBSTRUCTIONS

WRECK NO.	LAT.	LONG.	MIN. HANG.	MAX. CLEAR	DEPTH
845	28-34.214	80-18.9	65* /	56°	54 60
495	•	80-22.01	49* /	461	49* /
501	28-23.3*	80-16.7	55* /	43 · V	45
1221	28-20-5*/	80-24-31	Area was 38 to 51 found.	dragged to d	lepths of from _ letion was not

#Possible stray. Next shoalest sounding was 62

ADDENDUM To Accompany

WIRE DRAG FIELD INVESTIGATION PBS-4556WD FE 3,/957

GENERAL

The boat sheet for hydrographic survey PBS-4556 (E-8345), was used as an End Launch sheet. This will be forwarded when the smooth plot has been completed.

All drag strips are being submitted on an overlay as the Guide Launch sheet was so badly damaged the survey could not be shown clearly. This overlay may be used on either the Guide Launch sheet or on hydrographic survey H-8345.

Final corrections were applied to all shoran distances and the positions re-plotted in the Processing Office. In most instances, those on the boat sheets could not be readily identified. Some positions could not be reconciled according to data furnished and were either rejected, or adjusted using the best available information. See notes on the smooth plotter's tracings for discrepancies encountered.

Norfolk, Va. 28 Feb. 1957

Respectfully submitted,

Hugh L. Proffitt Cartographer.

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

18 March 1957

Plane of reference approved in 4 volumes of ROWANNE MERCEN WIPS drag records for

HYDROGRAPHIC SHEET FE No. 3 1957

Locality Cape Canaveral, Florida

Chief of Party: J. C. Ellerbe in 1956

Plane of reference is mean low water, reading

1.0 ft. on tide staff at Canaveral Harbor

10.9 ft. below B.M. 1 (1956)

Height of mean high water above plane of reference is 3.5 feet.

Condition of records satisfactory except as noted below:

Chief, Tides Branch

(GEOGRAPHIC NAMES Survey No. F.E.No (195	OLID	/	AO C C	D. Wood of the D. W. W. C. W.	Si Joed Lion	Made	, ciù c	n o o o o o o o o o o o o o o o o o o o	7. S. John
		. /6	Chor. Or	40. Or	7. Wax	or other stor	or lead way	20.54	Sold H	35. K
Ī	Name on Survey	$\frac{A}{A}$	В	/ c	/ D	/ E	F	G		
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Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. F. E. No. 3 W.D. (1957)

Records accompanying survey: bomb vols.; graphic recorder rolls 4-Envelopes special reports, etc. .1-Descriptive report, 1-Smooth sheet, ... and u-Overlay, Wire drag strips, The following statistics will be submitted with the cartographer's report on the sheet: Number of positions on sheet Number of positions checked Number of positions revised Number of soundings revised (refers to depth only) Number of soundings erroneously spaced Number of signals erroneously plotted or transferred Time Topographic details Junctions Time Verification of soundings from graphic record Time .Total time . 5! Verification by ?

Review of Field Examination No. 3, 1957

This field examination was made to locate and determine the least depths over wrecks Nos. 845, 495, 501 and 1221 in compliance with original instructions dated 24 August 1956, and supplemental instructions dated 3 October 1956 and 9 October 1956.

Wrecks Nos. 845, 495 and 501 were found. Wreck 1221 was not found.

The result of the wire-drag examinations are tabulated on the obstruction sheet in the Descriptive Report and are plotted on the accompanying tracing cloth overlay.

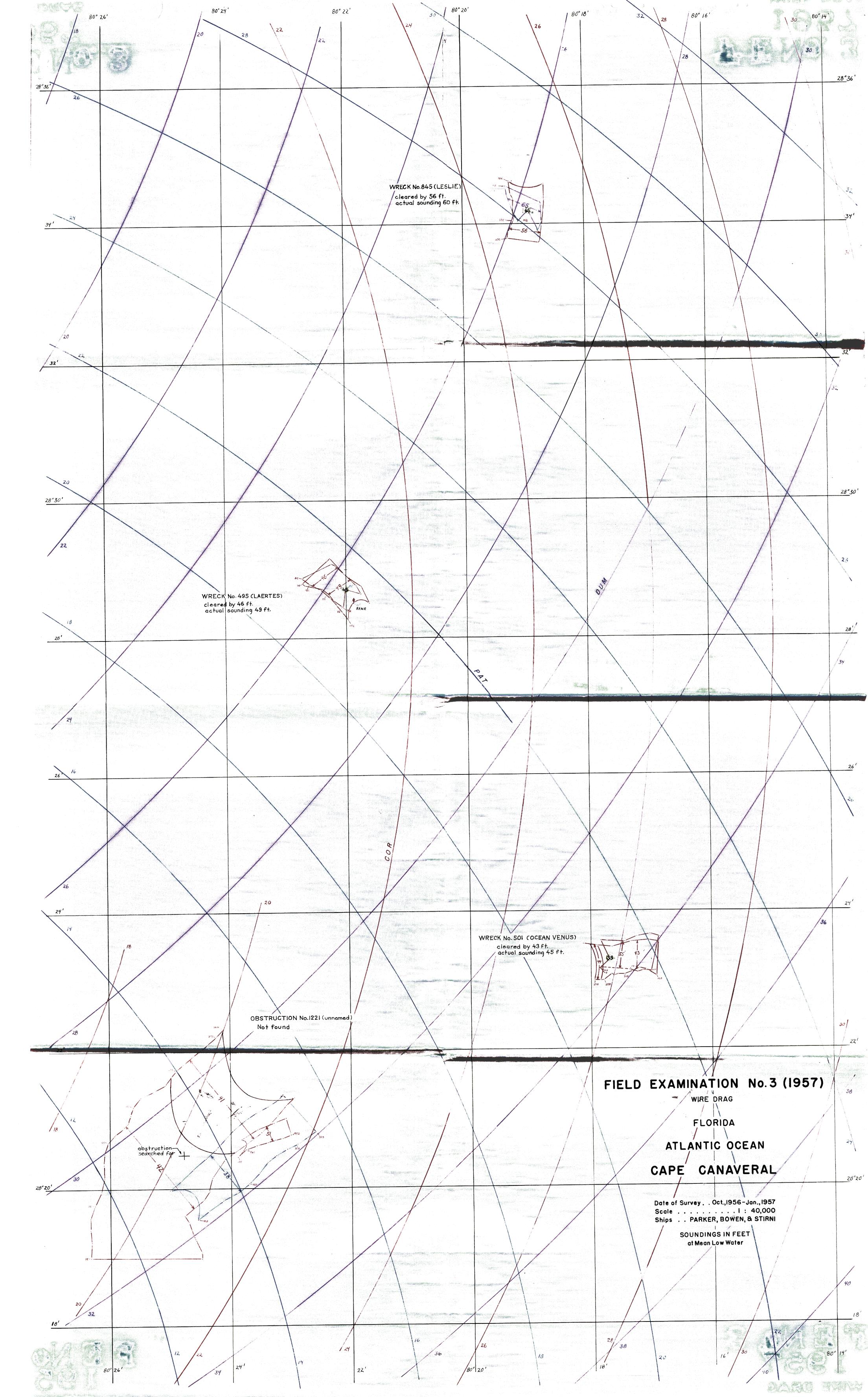
The work was applied to chart 1245, dated 1-28-57 and chart 1246 dated 10-29-56 from advance information of the present survey (chart letter 21, 1957). The cleared depth on wreck 845, charted in lat. 28°34.2', long. 80°18.9', was revised from 57 to 56 ft., and the cleared depth on wreck 501, charted in lat. 28°23.3', long. 80°17.7', was revised from 45 to 43 ft. during verification and review of the present field examination.

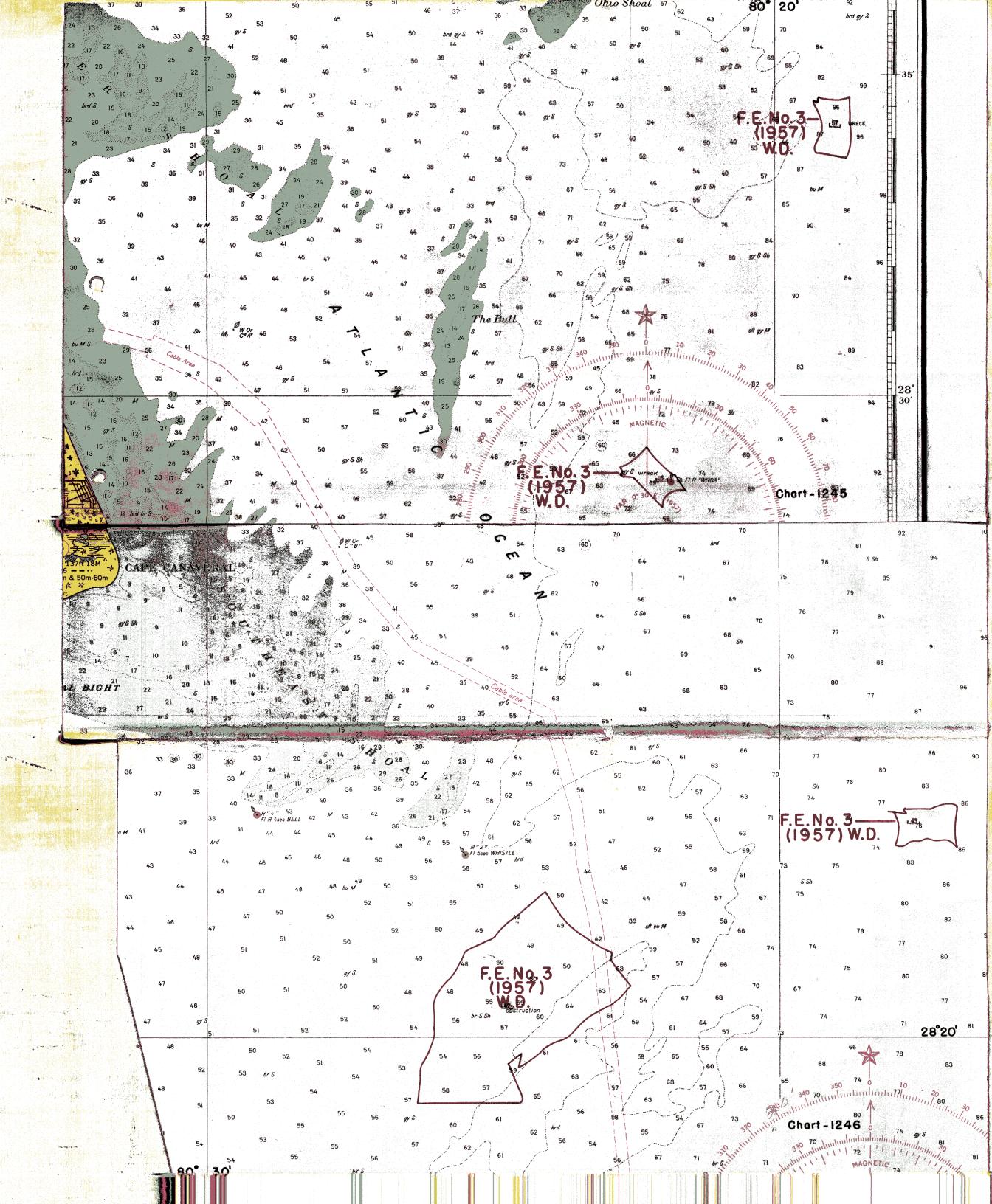
The present field examination supersedes information pertaining to wrecks No. 495 and 501 from wire-drag operations shown on F. E. 5 (1944). Additional demolition or deterioration of the wrecks has apparently occurred subsequent to the 1944 examination.

The Descriptive Report adequately covers all matters pertaining to the examination. No further discussion is considered necessary.

Reviewed by - I. M. Zeskind March 1957

Inspected by - R. H. Carstens





NAUTICAL CHARTS BRANCH

SURVEY NO. F.E.No.3 WD (1957)

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
3/26/57	1007	ME	Balace After Verification and Review
6/10/57	1246	N.W.B.	Before After Verification and Review
7/1/57	////	Sam	Refer Verification and Review Co. 16 Tiles
7-16-57	1001	OR. Wittman	Before After Verification and Review
10/15/57	1112	Thaller	Batter Verification and Review Completely 311
10/24/57	457	gowalker	Before After Verification and Review Completely
1/28/58	1245	AlBenson	Before After Verification and Review Completely
	,		Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
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	,		

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.